BEFORE THE

STATE CORPORATION COMMISSION

OF VIRGINIA

Application of	)	
	)	
Verizon Virginia Inc.	)	**Case No. PUC-2007-______**
and	)	
Verizon South Inc.	)	
	)	
For a Determination that Retail Services Are	)	
Competitive and Deregulating and Detariffing	)	
of the Same	)	

SOUTHWEST (SW) EXHIBITS

PUBLIC VERSION

Southwest (SW) Exhibits

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SW-1

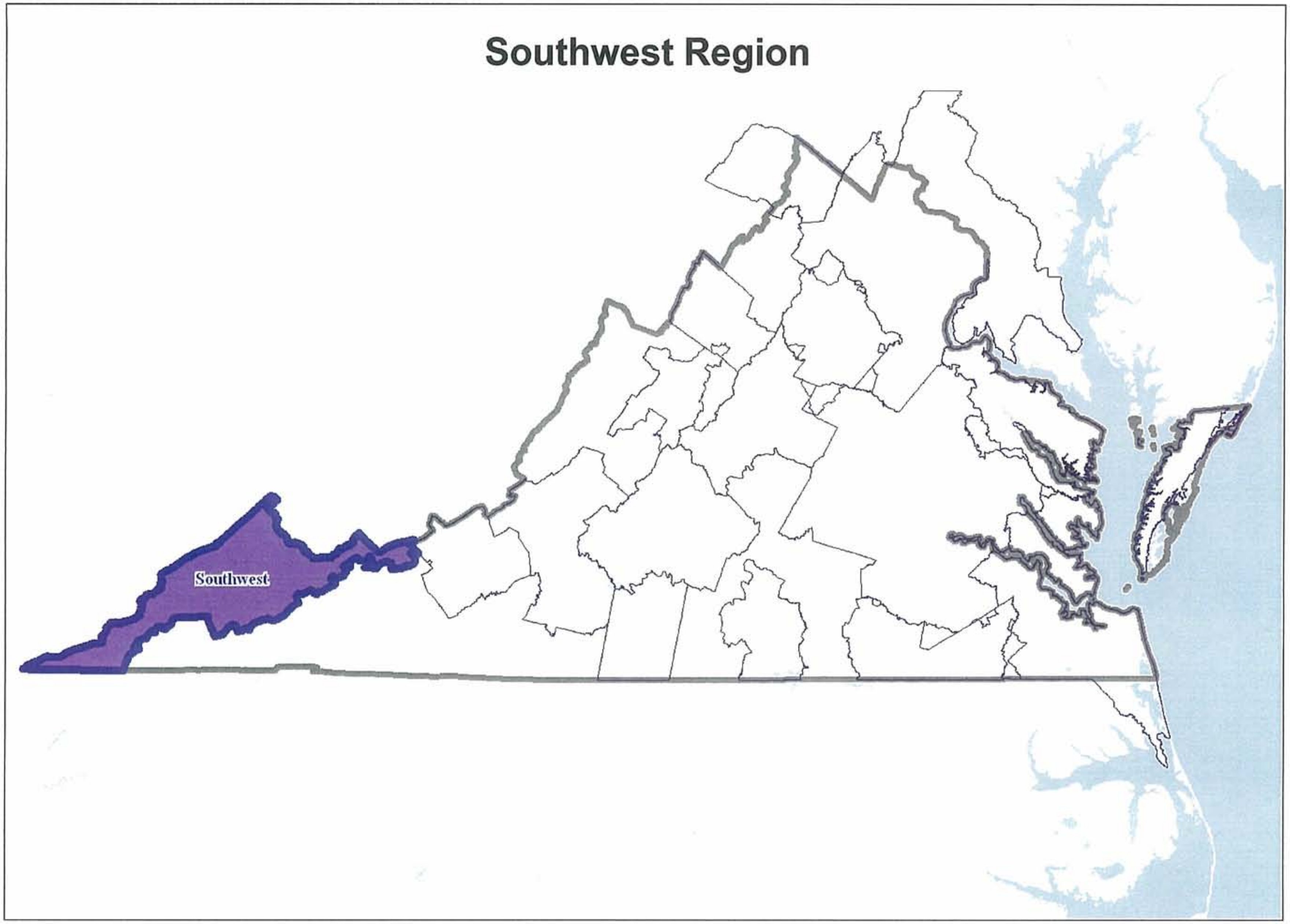

Exhibit SW-1, page 1 of 3

Southwest Region

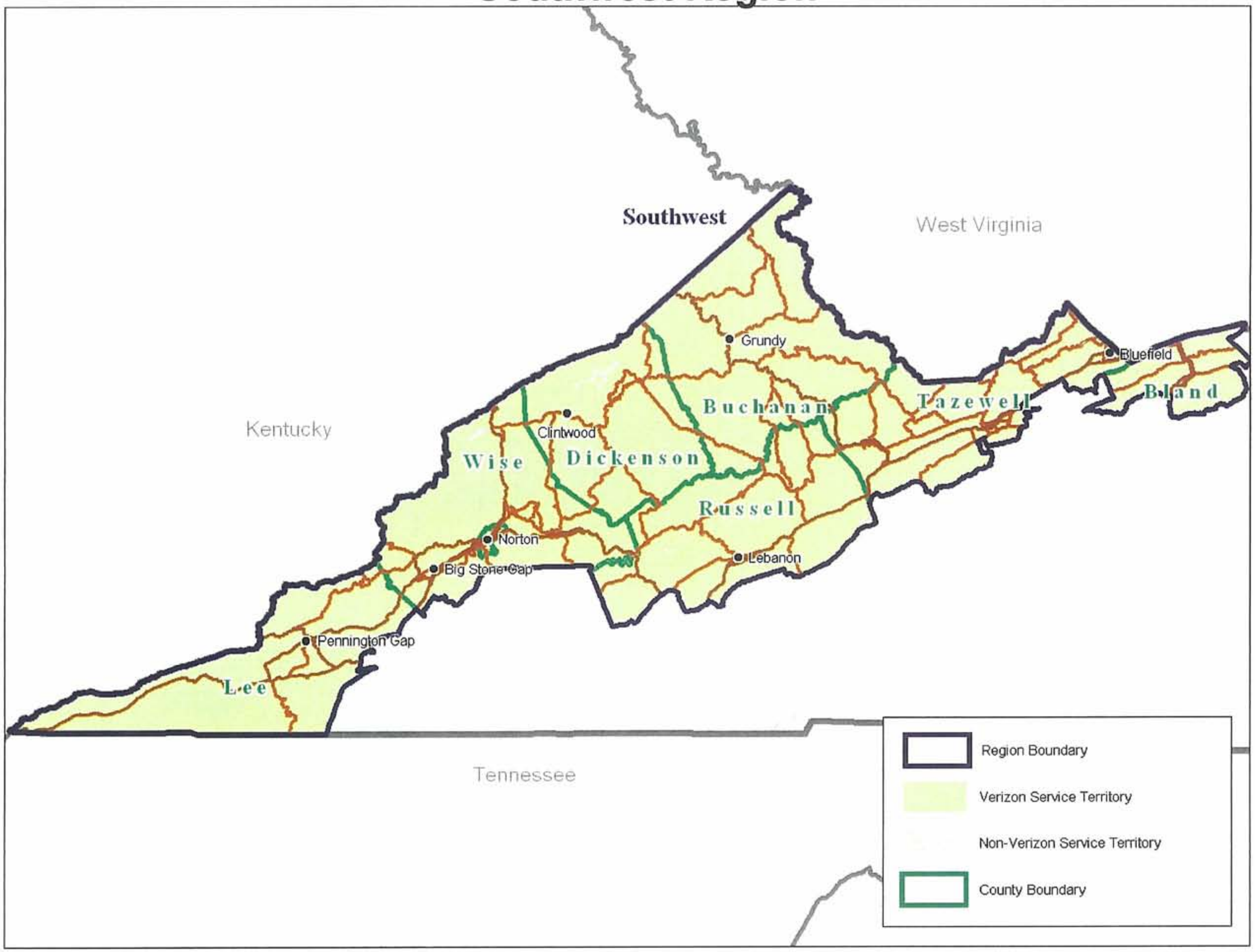

Exhibit SW-1, page 2 of 3

Southwest Region

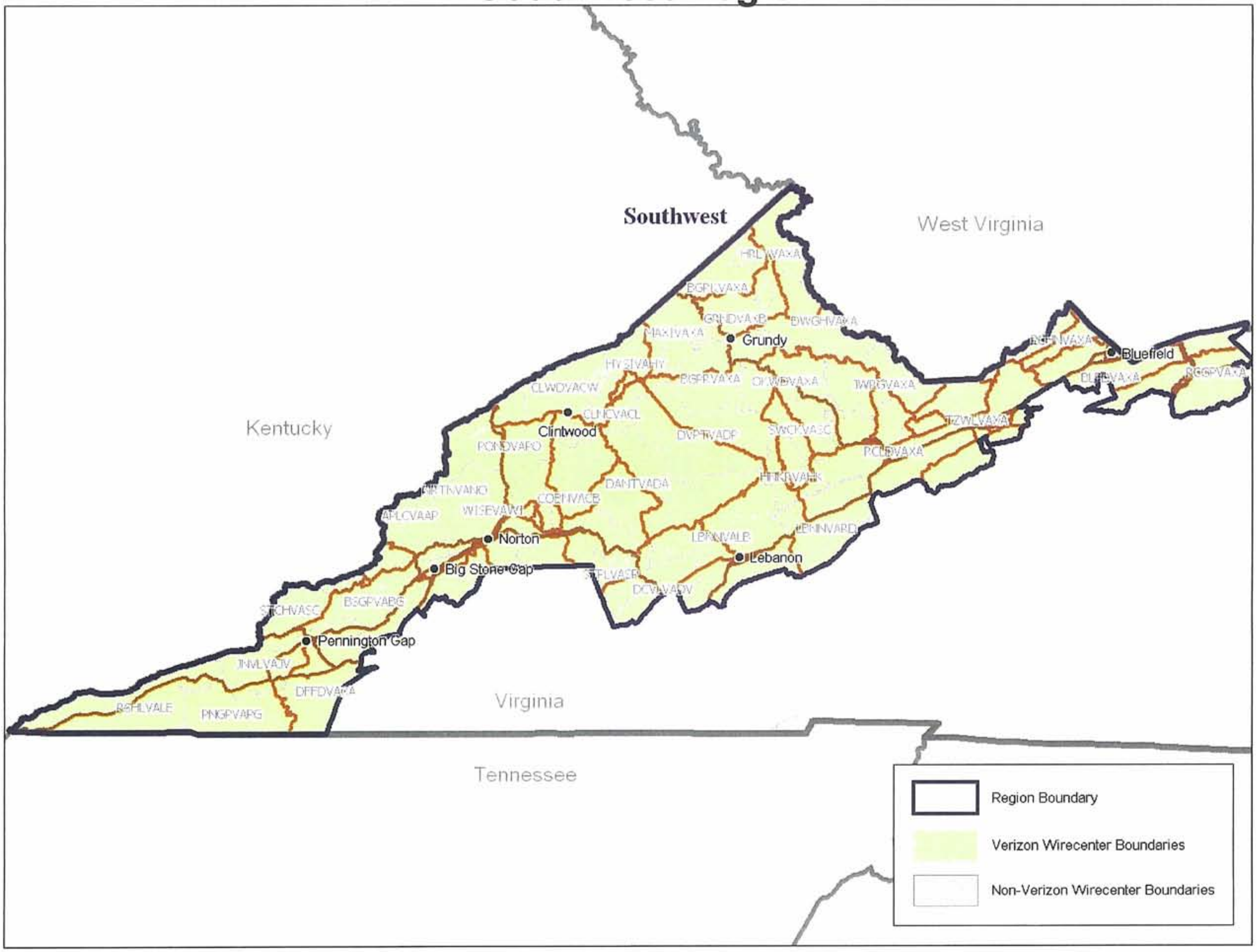

Exhibit SW-1, page 3 of 3

SW-2

Exhibit SWST-2

COMPETITION AND POTENTIAL COMPETITION FOR RETAIL TELECOMMUNICATIONS SERVICES IN VERIZON'S SOUTHWEST REGION SERVICE TERRITORY

Report of Jeffrey A. Eisenach, Ph.D.
January 17, 2007

CONTENTS

I. OVERVIEW

Verizon's service territory in the Southwest region consists of 2,560 square miles, with a population of 177,282 living in 75,184 households as of 2006. Also as of 2006, there were 5,125 business establishments.[1] The average population density is 69 persons per square mile, and the median household income is $30,543.[2] Verizon operates 34 wire centers in the region.[3]

The Southwest region is located in the 276 area code, and includes all or part of Mercer, Tazewell, Buchanan, Dickenson, Russell, Wise and Lee counties. It is bordered on the north and west by West Virginia and Kentucky, on the southeast by Bland, Smyth, Washington and Scott counties, and on the south by Tennessee.[4] The Southwest region is one of the most rural regions in the state: Its 34 wire centers range in population density from a minimum of 18 persons per square mile (Rocky Gap) to a maximum of 180 (Wise).[5]

Competition in the Southwest region is present and growing. The evidence presented below shows that virtually all households and businesses have access to BLETS and OLETS from traditional CLECs and from CMRS providers. Traditional wireline CLECs serve customers in **[BEGIN CONFIDENTIAL]** **END CONFIDENTIAL]**[6] Broadband services are available from all three major cable providers, Cebridge, Charter and Comcast, as well as from fixed wireless broadband providers.

There are no barriers to entry. The major cable companies have upgraded most or all of their infrastructures and are capable of deploying cable telephony quickly and with little additional investment. Importantly, Kentucky Data Link and Lenowisco are in the process of deploying high capacity fiber throughout the region, with multiple points of presence. Local governments, operating through agencies like the New River Valley Planning District and with substantial support from various state and Federal agencies, are actively engaged in building out new infrastructures, including last-mile infrastructures.

The analysis below of the availability and usage of existing alternative services, and of the conditions associated with potential competition and new entry, demonstrates that a combination of existing and potential competition regulate the prices of Verizon's retail telephony services in the Southwest region.

II. AVAILABILITY OF ALTERNATIVE SERVICES

All 75,184 households in the Southwest region and all 5,125 businesses in the Southwest region have the option to obtain alternatives to Verizon's BLETS, OLETS and Bundled Services from competitive providers. Facilities based competition is present, and numerous CLECs

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1. *See* Exhibit SWST-4.
2. *See id.*
3. *See* Exhibit SWST-3.
4. *See* Exhibit SWST-1.
5. *See* Exhibit SWST-4.
6. *See* Exhibit SWST-15.

provide services through resale and/or Wholesale Advantage agreements. Mobile telephone service is nearly ubiquitous, and broadband service is widespread as well.

A. Traditional CLECs[7]

Traditional CLECs provide competition throughout the Southwest region, and one carrier provides services over its own facilities.

[BEGIN CONFIDENTIAL] [redacted].[8] **[END CONFIDENTIAL]** In addition, all households and businesses in the Southwest region can receive service from traditional CLECs through resale and/or Wholesale Advantage services available from Verizon.[9] As of March 2006, **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]**

A total of **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]**[12]

B. Cable Telephony

The major cable providers in the region are Cebridge, Charter and Comcast.[13] Cebridge passes 2.6 percent of all households, Charter passes 15.5 percent and Comcast passes 38.4 percent (36 percent representing Adelphia systems acquired by Comcast in 2006).[14] All of Charter's infrastructure and approximately three-quarters of Comcast's infrastructure are upgraded and capable of providing cable telephony quickly and with little additional investment. Comcast has committed to deploy the service in the immediate future.[15] Approximately 45

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7. Here and in the remaining sections of this report, unless otherwise indicated, "traditional CLEC" refers to CLECs other than cable companies. "CLEC" refers to both traditional CLECs and cable companies.
8. *See* Exhibit SWST-15 and Exhibit SWST-17. The E911 data includes lines that are unable to be assigned to a wire center. These unassignable lines are included in the aggregate competition information. This leads to some under representation of E911 lines when broken out by wire center.
9. *See* Exhibit SWST-16.
10. *See* Exhibit SWST-15.
11. *See* Exhibit SWST-15.
12. *See* Exhibit SWST-14.
13. *See* Exhibit VA-10 and Exhibit SWST-9.
14. *See id.*
15. *See* Comcast, FAQ, https://www.comcast.com/Customers/FAQ/FaqDetails.ashx?Id=3804 (last visited Dec. 3, 2006); *Id.* at https://www.comcast.com/Customers/FAQ/FaqDetails.ashx?Id=3807 (last visited Dec. 3, 2006).

percent of all households are in areas where the infrastructure is already cable-telephony capable.[16]

C. Mobile Telephony

Of the 75,814 households in the Southwest region, all but 2,894 (4 percent) have access to at least one CMRS provider, and all but 8,964 (12 percent) have access to two or more carriers.[17] In addition to Verizon Wireless, there are two CMRS providers offering retail telephone services in the Southwest region.[18] They are Alltel and Appalachian.

As of 2006, there are 52 cellular towers in the Southwest region.[19] Of these, 18 have been constructed since 2004.[20] There is at least one cellular tower located in the area served by 18 of the 34 Verizon wire centers.[21]

D. Broadband and VoIP

Increasingly, consumers are choosing to combine stand-alone broadband Internet access with VoIP services provided by "bring your own access" companies such as Vonage, thus creating their own bundles of broadband and retail telephony services.

Cable Modem and DSL Service: All major cable companies in the region, Cebridge, Charter, and Comcast, offer cable modem service in the Southwest region,[22] collectively serving 45 percent of all residences.[23] In addition, Verizon makes DSL service without voice available to retail customers for $26.99 per month. **[BEGIN CONFIDENTIAL]**
[END CONFIDENTIAL] [24]

Fixed Wireless Service: In addition to wireline cable modem and DSL service, over one third of households (39 percent) have access to fixed wireless broadband services.[25] Providers include:

- Four Seasons Wireless: Four Seasons Wireless, headquartered in Bluefield, Virginia, provides 802.11 based fixed wireless services in the northeastern portion of the region. Residential services begin at $35.99 per month for 2Mbps of bandwidth.[26]

- Dickenson County Wireless Integrated Network: Dickenson County Wireless Integrated Network (DCWIN) was created by Virginia legislation promoting high-

16. *See* Exhibit VA-10 and Exhibit SWST-9.
17. *See* Exhibit SWST-12.
18. *See* Exhibit SWST-11.
19. *See* Exhibit SWST-10.
20. *See id.*
21. *Compare* Exhibit SWST-3 and Exhibit SWST-10.
22. *See* Exhibit VA-10 and Exhibit SWST-8.
23. *See id.*
24. *See* Exhibit VA-4.
25. *See id.*
26. Four Seasons Wireless, Wireless Internet, http://www.4seasonswireless.com/services_home.htm#Residential (last visited Nov. 28, 2006).

speed access to rural areas.[27] It began offering service to residential and commercial customers in 2004.[28] DCWIN's method of service is to develop its fiber backbone, and then add WiPOPs along the fiber to provide services at reduced prices. The Virginia Tobacco Commission granted $30,000 to DCWIN in FY 2005 and additional grant funding comes from other foundations.[29] Towers were recently completed at Red Onion Mountain, Jenkins Gap and Sandlick, and site surveys are now being conducted in these areas.[30]

While none of the firms discussed above offer bundles that include VoIP services, customers have the option of purchasing alternatives to Verizon's BLETS, OLETS and Bundled Services from by-pass VoIP companies. VoIP providers that offer telephone numbers in the 276 area code include Net2Phone and Packet8.[31]

E. Overall Availability of Alternative Platforms and Competitors

Looking overall at the availability of service from alternative platform providers (i.e., from mobile wireless, cable modem, DSL, facilities-based CLECs, and fixed wireless), 97 percent of all households in the Southwest region have service available from at least one alternative platform provider and 71 percent have service from two or more alternative platforms.[32]

Similarly, looking overall at the availability of service from all competitors – i.e, the same measure as above, but counting each competitor separately (e.g., counting each CMRS provider separately), competition is even more extensive: 90 percent of households have competitive alternatives from at least two competitors.[33]

III. USAGE OF ALTERNATIVE SERVICES

Verizon's internal data shows that at least **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** of wireline telephone lines in the Southwest region were being served by competitors as of March 2006. However, these figures understate the true market share of competitors, since they fail to account for intermodal competition, such as from wireless and broadband.

Survey data indicates that **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL] of households subscribe to broadband. Taking

27. STATUS REPORT, BROADBAND IN THE COMMONWEALTH: FY 2006, SUBMITTED TO THE GOVERNOR AND GENERAL ASSEMBLY OF VIRGINIA 55 (2005).
28. *See* DCWIN, www.dcwin.org (last visited June 16, 2006).
29. *See id.* at http://www.dcwin.org/html/awards___grants.html (last visited June 16, 2006).
30. *See id.* at http://www.dcwin.org/index.html (last visited Nov. 28, 2006).
31. *See* West Testimony at 81.
32. *See* Exhibit VA-4 and Exhibit SWST-5.
33. *See* Exhibit VA-5 and Exhibit SWST-6.
34. This figure does not include approximately six percent of the population (who by definition were not reached through Verizon's telephone survey) who have cut the cord altogether. *See* West Testimony at p. 63, n. 84.

intermodal competition into account, the data presented below show that Verizon voice lines now account for only 47.3 percent of all wireline telephony, wireless telephony and broadband connections in the region.

Time series data presented at the end of this section also shows that Verizon's wireline market share is falling, both in proportion to the number of wirelines served and relative to the number of households in the region. Taken together, the data presented in detail below demonstrates that the competitive alternatives described in Section II represent viable alternatives for Verizon's BLETS, OLETS and Bundled Services in the Southwest region, since customers are actually switching to them in large numbers.

A. Traditional CLECs and Cable Telephony

As detailed in Exhibit SWST-15, a total of **[BEGIN CONFIDENTIAL]** . **[END CONFIDENTIAL]** [36]

These figures are consistent with (though lower than) the survey data presented by Mr. Newman, which shows that **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** of residential customers in the Southwest region are using providers other than Verizon.[37] In rural areas (including the Southwest region), the survey data shows that 7.2 percent of POTS business customers and 10.1 percent of all business customers are using other providers.[38]

Exhibit SWST-15 also demonstrates that wireline competition is ubiquitous throughout the Southwest region. It shows that competitors are actually serving business and/or residential customers in **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** of the 34 wire centers in the Southwest region, including the smallest and most rural wire centers.[39] These data demonstrate that alternatives to Verizon's BLETS, OLETS and Bundled Services from wireline competitors are available and in use by both residential and enterprise customers throughout the Southwest region.

B. Mobile Telephony

The survey data presented by Mr. Newman shows that **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** of households in the Southwest region purchase telephone service from mobile telephone companies.[40] **[BEGIN CONFIDENTIAL]**

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35. *See* Exhibit SWST-15.
36. *See* Exhibit SWST-19.
37. *See* Exhibit VA-21.
38. *See* Exhibit VA-20.
39. *See* Exhibit SWST-15.
40. *See* Exhibit VA-21.

[END CONFIDENTIAL] [41]

While Mr. Newman's testimony does not provide data on business usage of mobile telephones specifically for the Southwest region, it does indicate that the proportion of businesses in rural areas (including the Southwest region) which purchase mobile telephone service is 49.2 percent,[42] and that 12.7 percent of business respondents consider their mobile telephone to be their primary means of voice communication.[43]

These figures do not include mobile telephone customers who have dropped their wireline service altogether, as these customers were not eligible for the telephone survey. As Mr. West's testimony indicates, national estimates suggest that approximately six percent of residential customers have "cut the cord."[44]

These figures demonstrate that the mobile wireless alternatives available to consumers in the Southwest region function as actual, viable alternatives to Verizon's BLETS, OLETS and Bundled Services.

C. Broadband and VoIP

The survey data presented by Mr. Newman show that **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL] [45]

The fact that cable modem service is used by more than **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** as many customers as DSL demonstrates that the cable companies in the Southwest region have been highly successful in selling at least the second (data) leg of their triple play offerings, and that Verizon thus faces a substantial competitive challenge as it tries to retain customers in the face of cable's imminent triple play cable telephony offerings.

The survey data presented by Mr. Newman show that in rural areas in Virginia (including the Southwest region), 48.5 percent of businesses subscribe to high-speed broadband service.[46]

These overall usage rates for broadband demonstrate that the broadband plus VoIP "build your own bundle" option is available today to approximately **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** households and nearly half of all businesses, which already subscribe to broadband.

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41. *See id.*
42. *See* Exhibit VA-20.
43. *See id.*
44. *See* West Testimony at 64.
45. *See* Exhibit VA-21.
46. *See* Exhibit VA-20.

D. Overall Penetration of Wireline and Intermodal Competition

While it is not possible to estimate precisely the number of lines Verizon has lost to wireline and intermodal competitors, it is clear that competition is having a significant impact on Verizon's market share, both in terms of wireline telephony and the overall markets for BLETS, OLETS and bundled services, and that wireline competitors are winning a growing proportion of customers. The data also indicate that intermodal competitors are winning a growing proportion of customers from wireline carriers of all types (i.e., including both Verizon and the traditional CLECs and cable telephony providers).

Both Verizon's line count and its wireline market share in the Southwest region are dropping. As indicated in Figure 1 below, between December 2003 and March 2006 (i.e., in 27 months), the ratio of Verizon lines to households fell from **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]** drop in Verizon's residential wireline count.[48]

During this same 27-month period, the number of business wirelines served by wireline CLECs rose by **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]** [50]

47. *See* Exhibit SWST-4 and Exhibit SWST-19.
48. *See* Exhibit SWST-19.
49. *See id.*
50. *See id.*

Figure 1 also demonstrates the significance of intermodal competition from wireless telephony and from broadband plus VoIP "build you own" bundles. It shows that the ratio of combined Verizon and CLEC residential lines to households fell from **[BEGIN CONFIDENTIAL]**

END CONFIDENTIAL] [51] Assuming people have not stopped using voice telephony altogether, these data clearly indicate that wireless and broadband providers are competing effectively with both Verizon and other traditional wireline providers – a conclusion which is consistent with the high rates of wireless telephony usage and broadband adoption as discussed above.

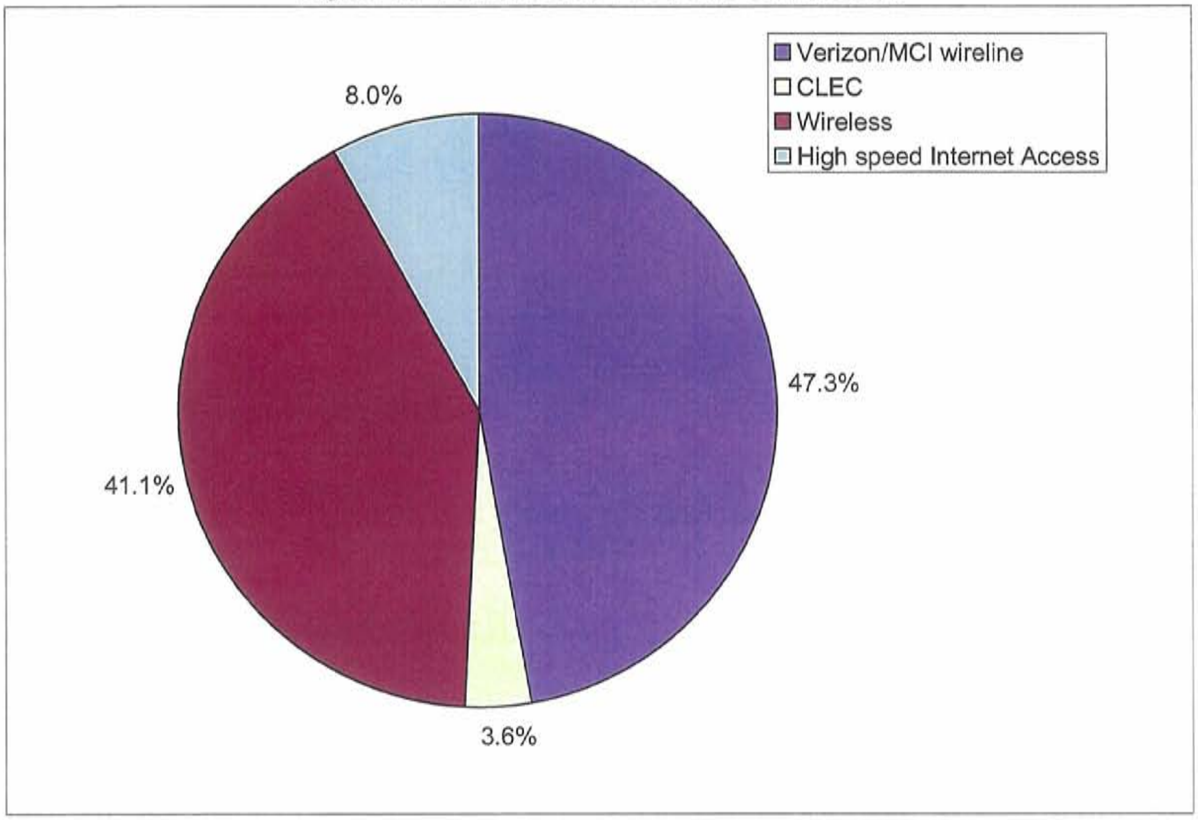
[BEGIN CONFIDENTIAL]

[END CONFIDENTIAL]

Another perspective on Verizon's loss of overall share is shown in Figure 2 below, which shows the percentage of total connections – including wireline telephony, wireless telephony and broadband connections – served by Verizon, based on the survey conducted by Mr. Newman. As the figure shows, Verizon voice lines now account for only 47.3 percent of all wireline telephony, wireless telephony and broadband connections.[52]

51. *See id.*
52. *See* Exhibit VA-22.

Figure 2: Verizon Share of Total Connections



IV. POTENTIAL COMPETITION AND ENTRY

While competition from CLECs using resale and/or Wholesale Advantage services, from CMRS providers, from wireless broadband providers, and from one cable telephony provider is already present in the Southwest region, the potential for additional competition is also evident.

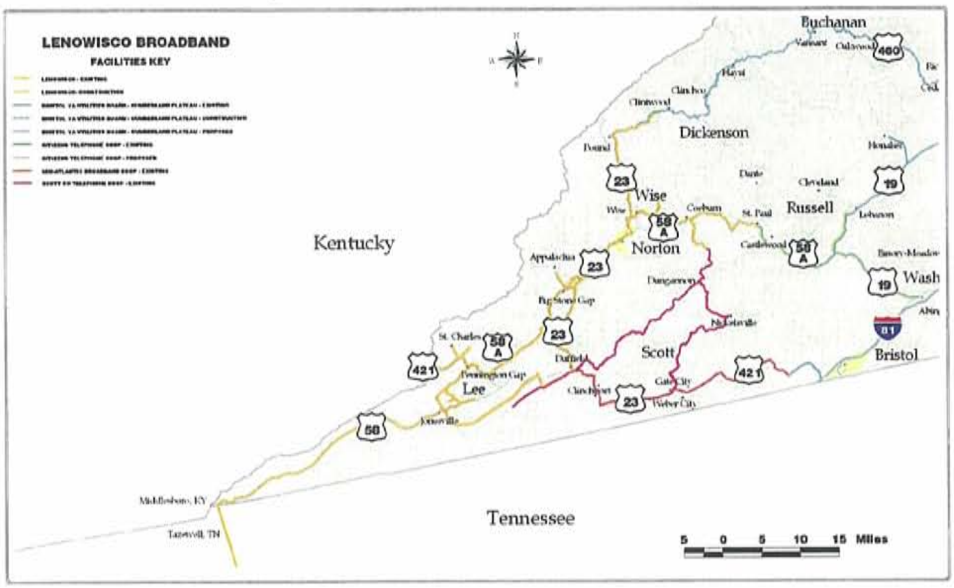
Comcast is positioned to deploy cable telephony to at least 29 percent of households in the region. This deployment can be accomplished quickly and with little additional investment for nearly 20,000 households which are passed by an upgraded infrastructure. Charter's infrastructure is also upgraded, passing an additional 15.5 percent of households. Comcast also serves an additional 10 percent of households whose systems apparently have not yet been upgraded.[53] However, the company has announced plans to deploy cable telephony throughout its service areas.

The fact that facilities-based competition already exists in the region, in the form of Telcove's facilities-based services in Big Stone Gap, demonstrates that facilities-based competition from CLECs is also viable, and represents a competitive threat, especially if Verizon were to attempt to raise prices above competitive levels.

53. *See* Exhibit VA-10.

More broadly, barriers to entry in the Southwest region are relatively low. The Southwest region now has extensive access to high-capacity fiber optic infrastructure, and more are being constructed. Ntelos and ValleyNet have points of presence in Bluefield. Kentucky Data Link is constructing an extensive fiber infrastructure, with points of presence at Norton, Lebanon, Pennington Gap and Tazewell.[54] The most extensive fiber deployment, however, is being constructed by Lenowsico, which is deploying fiber and multiple points of presence throughout the region.[55] The Lenowisco network is shown in Figure 3 below.[56]

Figure 3: Lenowisco Network Map



Additional initiatives are underway involving a number of public-private entities, including the New River Valley Planning District Commission, which is in the process of raising funds from multiple government agencies and private sources to build out still more high-capacity infrastructure in the New River Valley.[57]

The widespread presence of cell towers throughout the region (there are towers in 18 of the 34 wire center areas, and 18 new towers have been constructed since 2004) means that the mobile and fixed wireless entry is also inexpensive. Finally, nearly all of the population in the Southwest region lives in rural areas, and thus is potentially eligible for funding from the RUS. Moreover, all seven counties in the Southwest region (Bland, Buchanan, Dickenson, Lee, Russell, Tazewell, and Wise) are eligible for support from the Tobacco Commission;[58] Bland,

54. *See* Eisenach Testimony at III.B. and Exhibit VA-18.

55. *See id.*

56. *See* Broadband Initiatives in Southern and Southwest Virginia (available at http://www.education.virginia.gov/Initiatives/BroadbandInitiatives-SWVa.pdf (last viewed November 30, 2006) (hereafter "Broadband Initiatives.").

57. *See* Paul Dellinger, *Regional broadband network to seek initial funding: The first phase will be one of three aimed at putting 283 miles of fiber through the valley*, ROANOKE TIMES, Sep. 16, 2006.

58. The projects most likely to be funded, according to the Tobacco Commission's application, would (1) create a fiber-optic network that spans the region, (2) connect the region's extant fiber-optic networks to

Buchanan, Dickenson, Lee, Russell, Tazewell, and Wise counties and Norton, an independent city, are also eligible for support from the Appalachian Regional Commission.[59]

V. CONCLUSION

Both residential and business consumers have multiple alternatives to Verizon's retail telecommunications services in the Southwest region. Verizon is already losing customers to traditional CLECs and intermodal competitors, and this decline is taking place *at current prices.* Charter and Comcast, are in a position to deploy cable telephony services quickly and without significant additional investment to nearly half of all households, and Comcast has announced plans to do so in the immediate future. The recent and ongoing expansion of the region's fiber infrastructure also reduces the cost of entry and enhances the viability of actual and potential competitors. If Verizon were to raise prices above competitive levels, it would both accelerate the rate at which it is losing customers to existing competitive services,[60] and increase the rate at which competitors and potential competitors deploy new services in the market. The availability of options already in the region, the capabilities and announced intentions of actual competitors to expand their services, and the potential for additional competition are adequate to regulate the price of Verizon's retail telephone services in this region.

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national and global networks, (3) create service access at strategic aggregation points across the region, and (4) deploy optical and wireless technologies for community infrastructure that reflect the best technical and economical choices available. *See* Virginia Tobacco Indemnification and Community Revitalization Commission, Technology Grant Program: Guidelines, Instructions, and Application 3 (2006), *available at* http://www.vatobaccocommission.org. Tobacco Commission eligible areas include independent cities located within the named counties.

59. *See* Eisenach Testimony at Table 4 and Appalachian Regional Commission, Counties in Appalachia, http://www.arc.gov/index.do?nodeId=27 (last visited Dec. 3, 2006).

60. An analysis conducted by Dr. Taylor estimates that a decision by Verizon to raise prices bv 5 percent in the Southwest region would result in a *net* revenue loss of **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** annually. *See* Taylor Testimony, Table 14 at 94.

SW-3

Wire Centers by Rate Group, Exchange, City and County

REGION	LOC ST	WIRECENTER	LOCATION NAME	Rate Group	Exchange	CENTRAL OFFICE CITY	COUNTY
Southwest	VA-E	APLCVAAP	APPALACHIA VA	04	APPALACHIA	APPALACHIA	Wise
		BSGPVABG	BIG STONE GAP VA	05	BIG STONE GAP	BIG STONE GAP	Wise
		CLNCVACL	CLINCHCO VA	03	CLINCHCO	CLINCHCO	Dickenson
		CLWDVACW	CLINTWOOD VA	05	CLINTWOOD	CLINTWOOD	Dickenson
		COBNVACB	COEBURN VA	05	COEBURN	COEBURN	Wise
		DANTVADA	DANTE VA	05	DANTE	DANTE	Russell
		DCVLVADV	DICKENSONVILLE VA	05	LEBANON/ST. PAUL	CASTLEWOOD	Russell
		DVPTVADP	DAVENPORT VA	05	DAVENPORT	DAVENPORT	Buchanan
		HNKRVAHK	HONAKER VA	05	HONAKER	HONAKER	Russell
		HYSIVAHY	HAYSI VA	02	HAYSI	HAYSI	Dickenson
		JNVLVAJV	JONESVILLE VA	03	JONESVILLE	JONESVILLE	Lee
		LBNNVALB	LEBANON VA	05	LEBANON	LEBANON	Russell
		LBNNVARD	ROSEDALE VA	05	LEBANON	ROSEDALE	Russell
		NRTNVANO	NORTON VA	05	NORTON	NORTON	Norton City
		PNGPVAPG	PENNINGTON GAP VA	04	PENNINGTON GAP	PENNINGTON GAP	Lee
		PONDVAPO	POUND VA	05	POUND	POUND	Wise
		RSHLVALE	LEE VA	05	CUMBERLAND GAP	ROSE HILL	Lee
		STCHVASC	ST. CHARLES VA	03	ST. CHARLES	SAINT CHARLES	Lee
		STPLVASP	ST. PAUL VA	04	ST. PAUL	SAINT PAUL	Wise
		SWCKVASC	SWORDS CREEK VA	05	HONAKER	HONAKER	Russell
		WISEVAWI	WISE VA	05	WISE	WISE	Wise
	VA-S	BGPRVAXA	BIG PRATER	05	BIG PRATER	BIG PRATER	Buchanan
		BGRKVAXA	BIG ROCK	05	BIG ROCK	BIG ROCK	Buchanan
		BLFDVAXA	BLUEFIELD	06	BLUEFIELD	BLUEFIELD	Tazewell
		DWGHVAXA	DWIGHT	06	DWIGHT	DWIGHT	Buchanan
		GRNDVAXB	GRUNDY	06	GRUNDY	GRUNDY	Buchanan
		HRLYVAXA	HURLEY	05	HURLEY	HURLEY	Buchanan
		JWRGVAXA	JEWELL RIDGE	06	JEWELL RIDGE	JEWELL RIDGE	Tazewell
		MAXIVAXA	MAXIE	05	MAXIE	MAXIE	Buchanan
		OKWDVAXA	OAKWOOD	07	OAKWOOD	OAKWOOD	Buchanan
		PCHNVAXA	POCAHONTAS	06	POCAHONTAS	POCAHONTAS	Tazewell
		RCGPVAXA	ROCKY GAP	07	ROCKY GAP	ROCKY GAP	Bland
		RCLDVAXA	RICHLANDS	07	RICHLANDS	RICHLANDS	Tazewell
		TZWLVAXA	TAZEWELL	07	TAZEWELL	TAZEWELL	Tazewell

SW-4

CONFIDENTIAL

EXHIBIT SW-4

SW-5

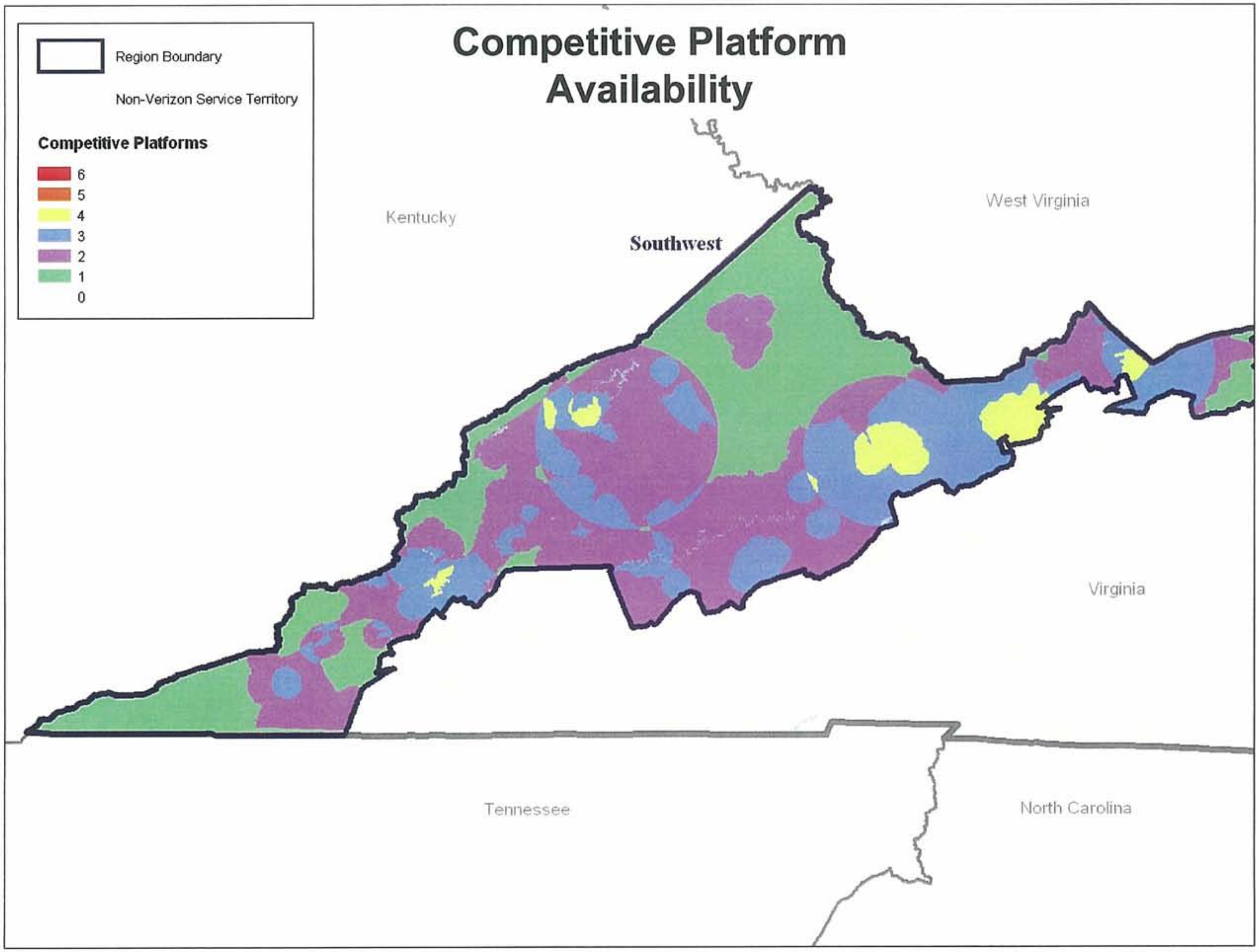
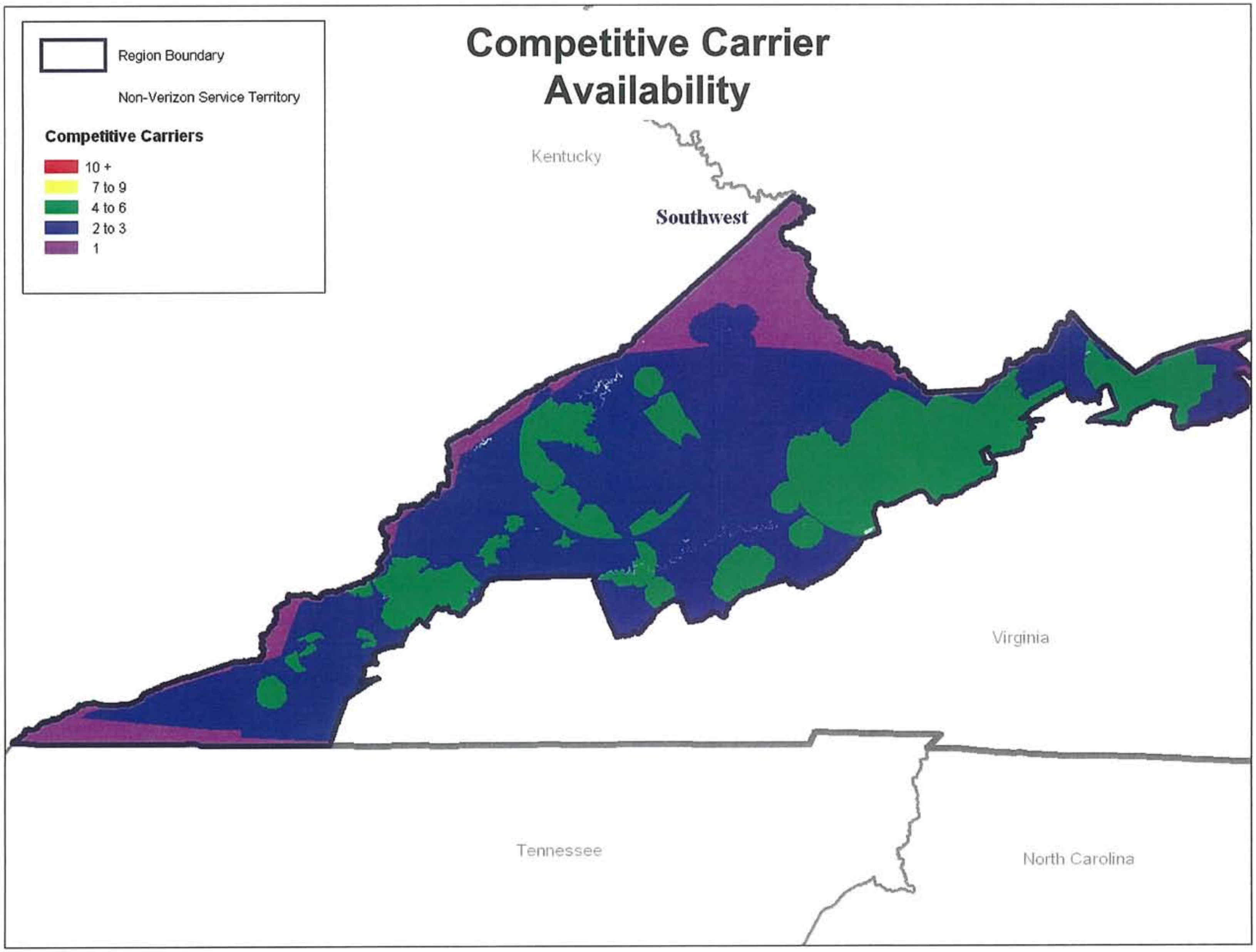

Competitive Platform Availability
Region Boundary
Non-Verizon Service Territory
Competitive Platforms
6
5
4
3
2
1
0
Kentucky
Southwest
West Virginia
Virginia
Tennessee
North Carolina

Exhibit SW-5

SW-6



Competitive Carrier Availability
Region Boundary
Non-Verizon Service Territory
Competitive Carriers
10 +
7 to 9
4 to 6
2 to 3
1
Kentucky
Southwest
Virginia
Tennessee
North Carolina

Exhibit SW-6

SW-7

Cable Availability

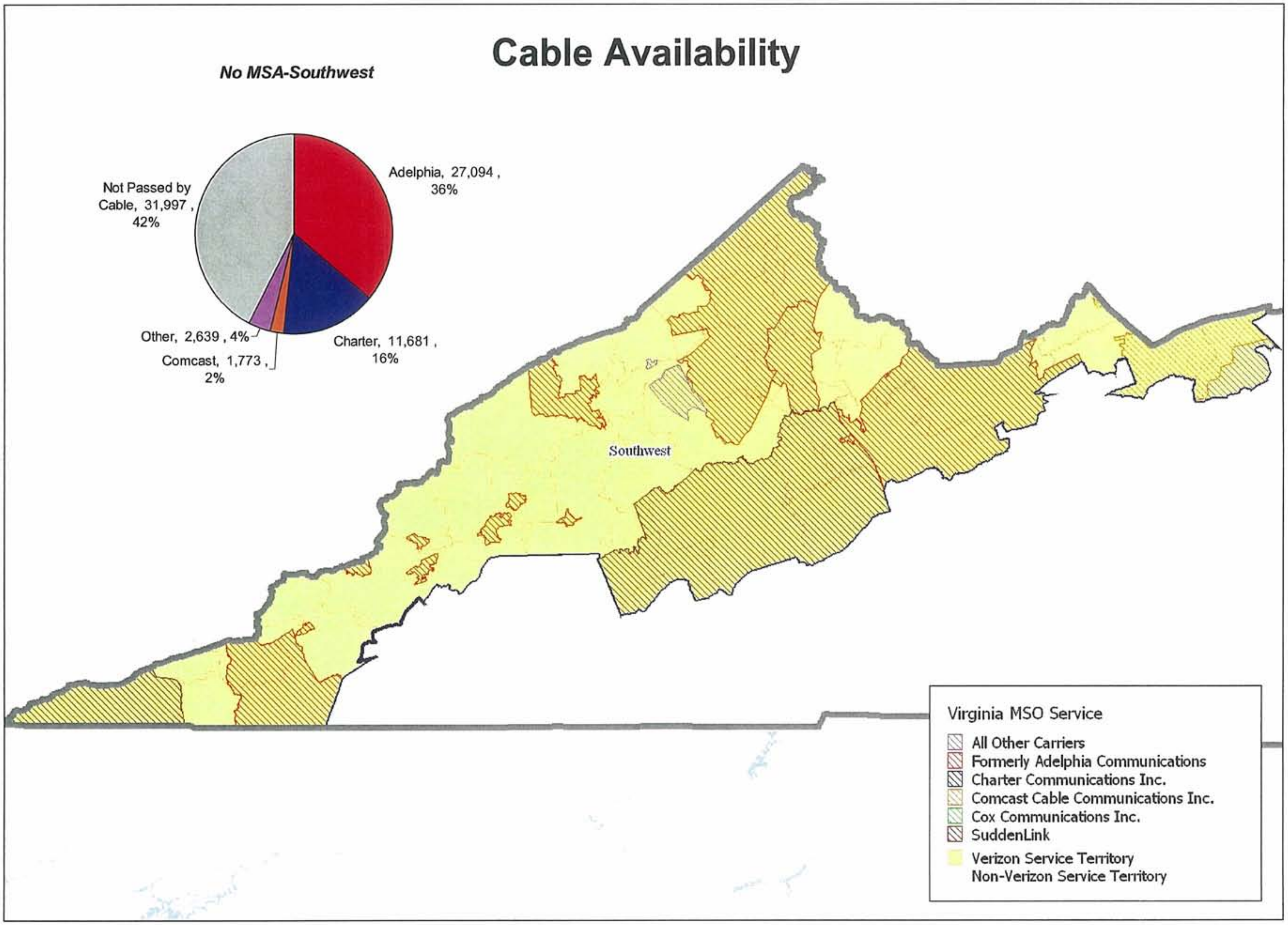
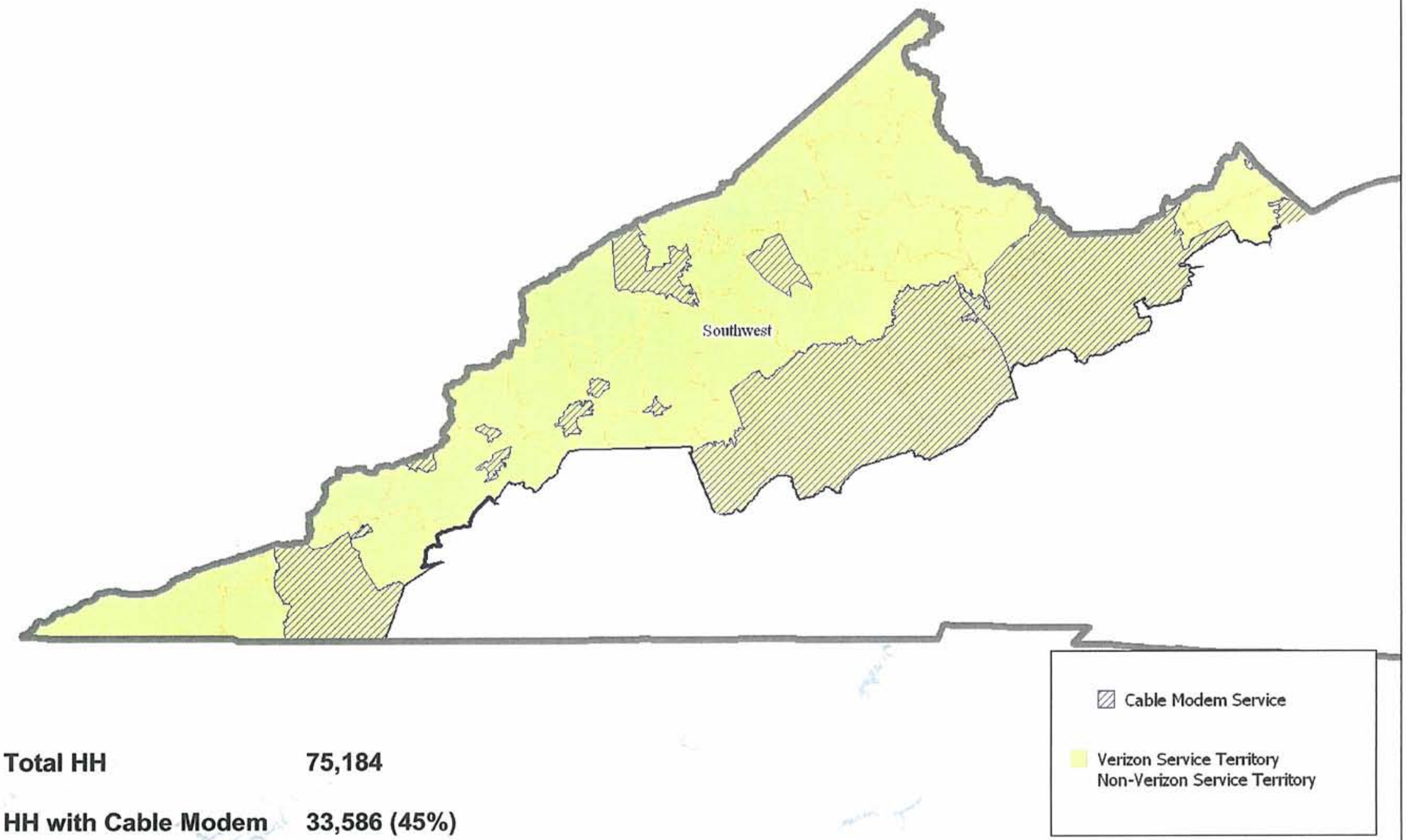


Exhibit SW-7

Note: HH numbers reflect only those households in Verizon's Service Territory

SW-8

Cable Modem Availability



Total HH 75,184

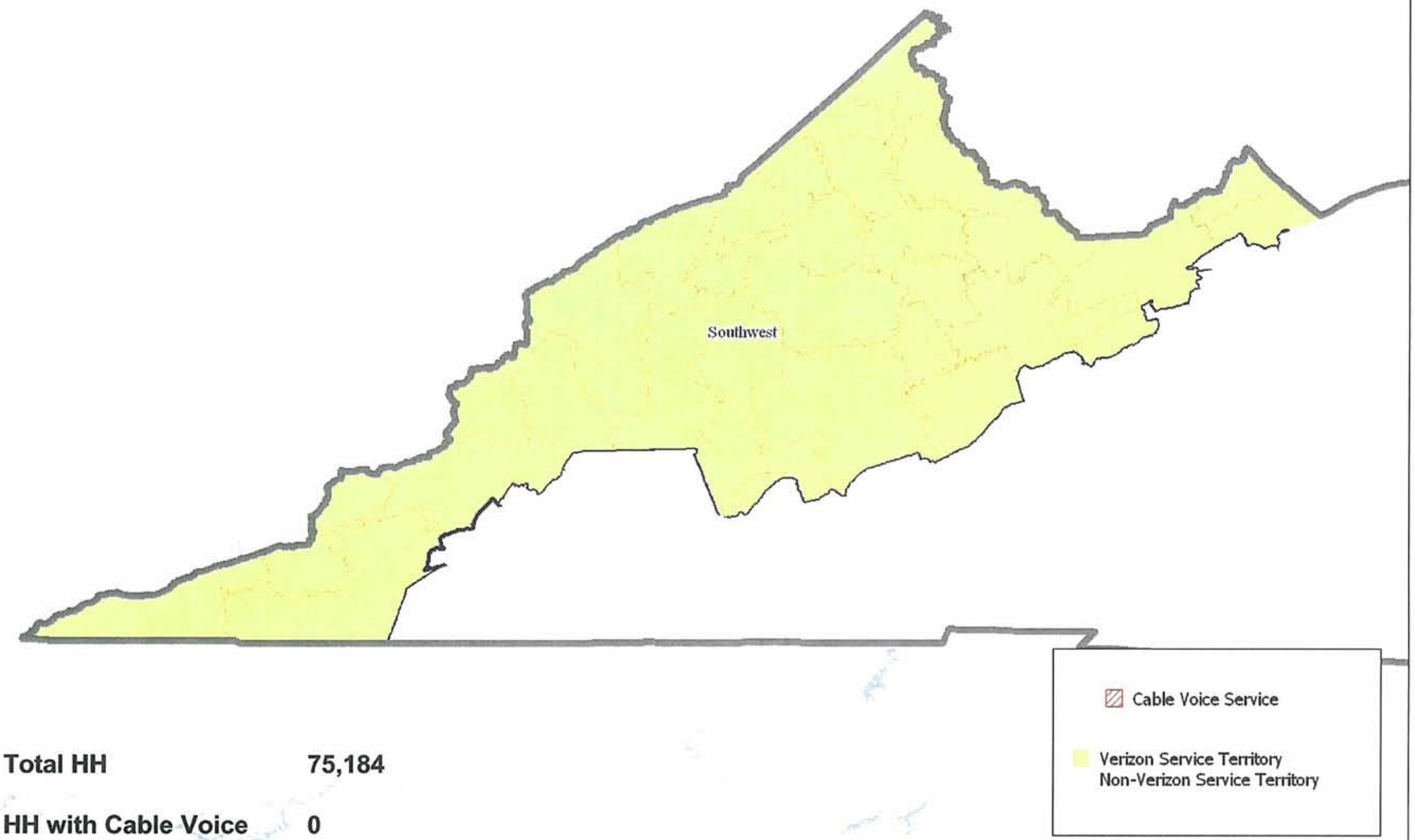
HH with Cable Modem 33,586 (45%)

Exhibit SW-8

Note: HH numbers reflect only those households in Verizon's Service Territory

SW-9

Cable Voice Availability



Total HH 75,184

HH with Cable Voice 0

Exhibit SW-9

Note: HH numbers reflect only those households in Verizon's Service Territory

SW-10

Wireless Tower Locations by Year Constructed

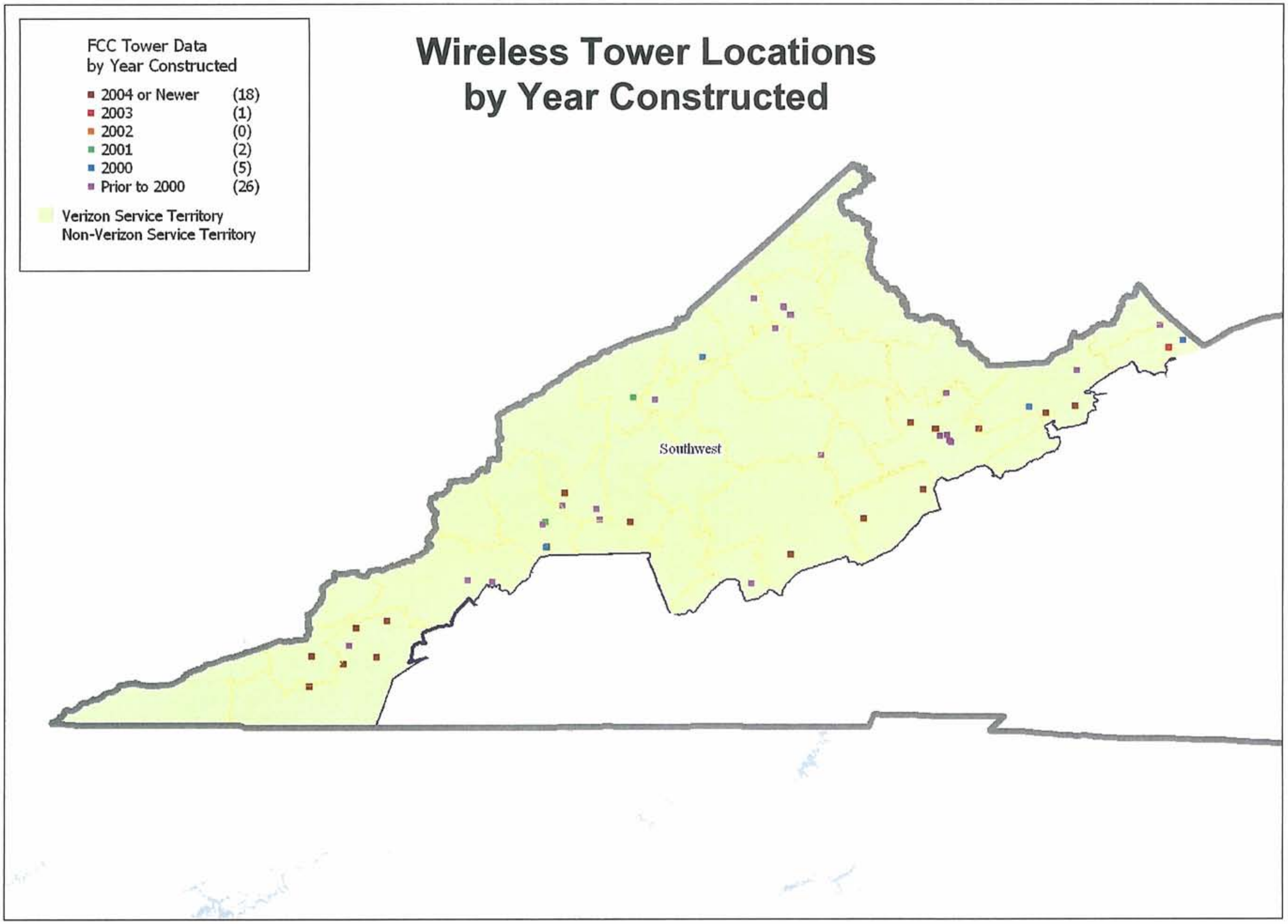


Exhibit SW-10

SW-11

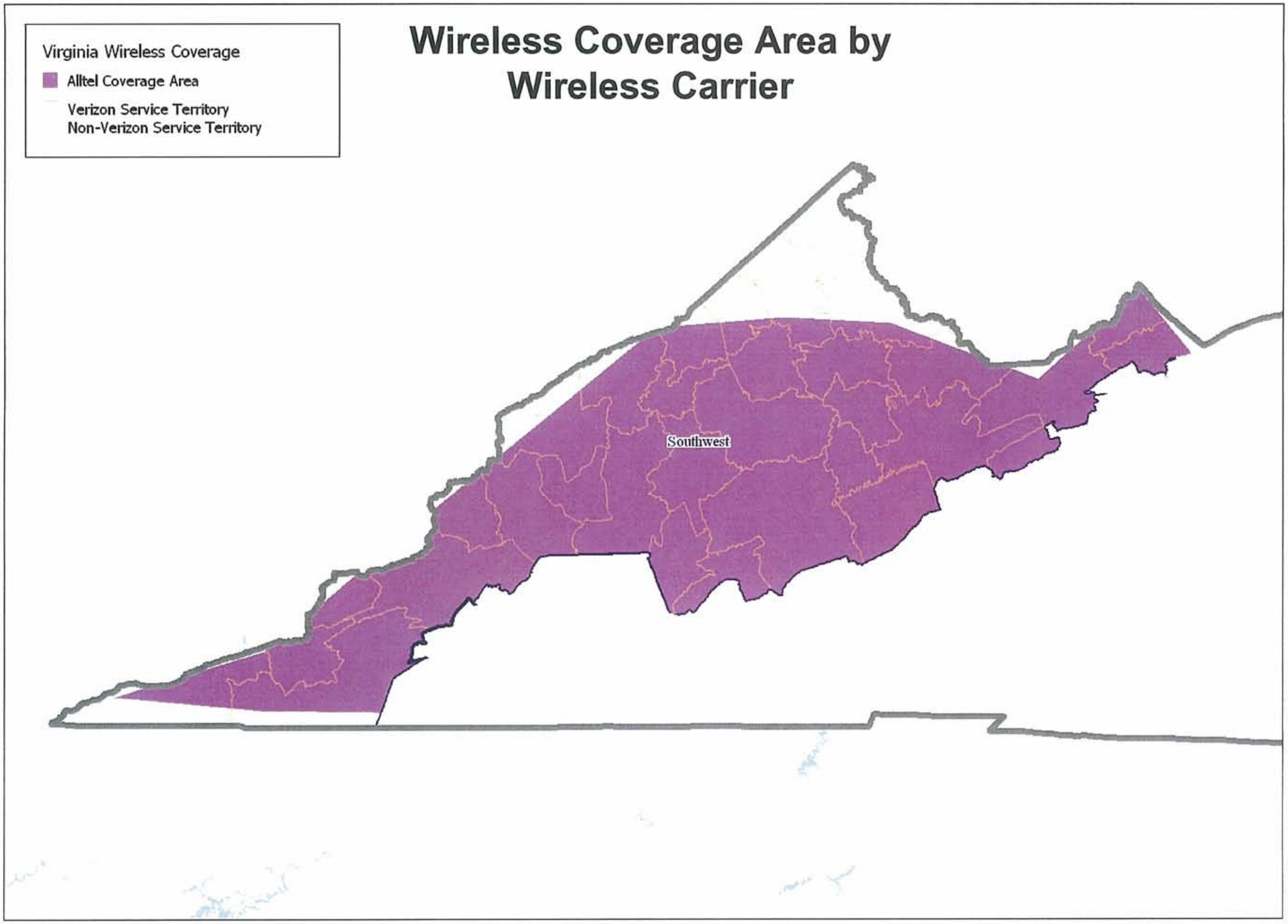


Exhibit SW-11, page 1 of 2

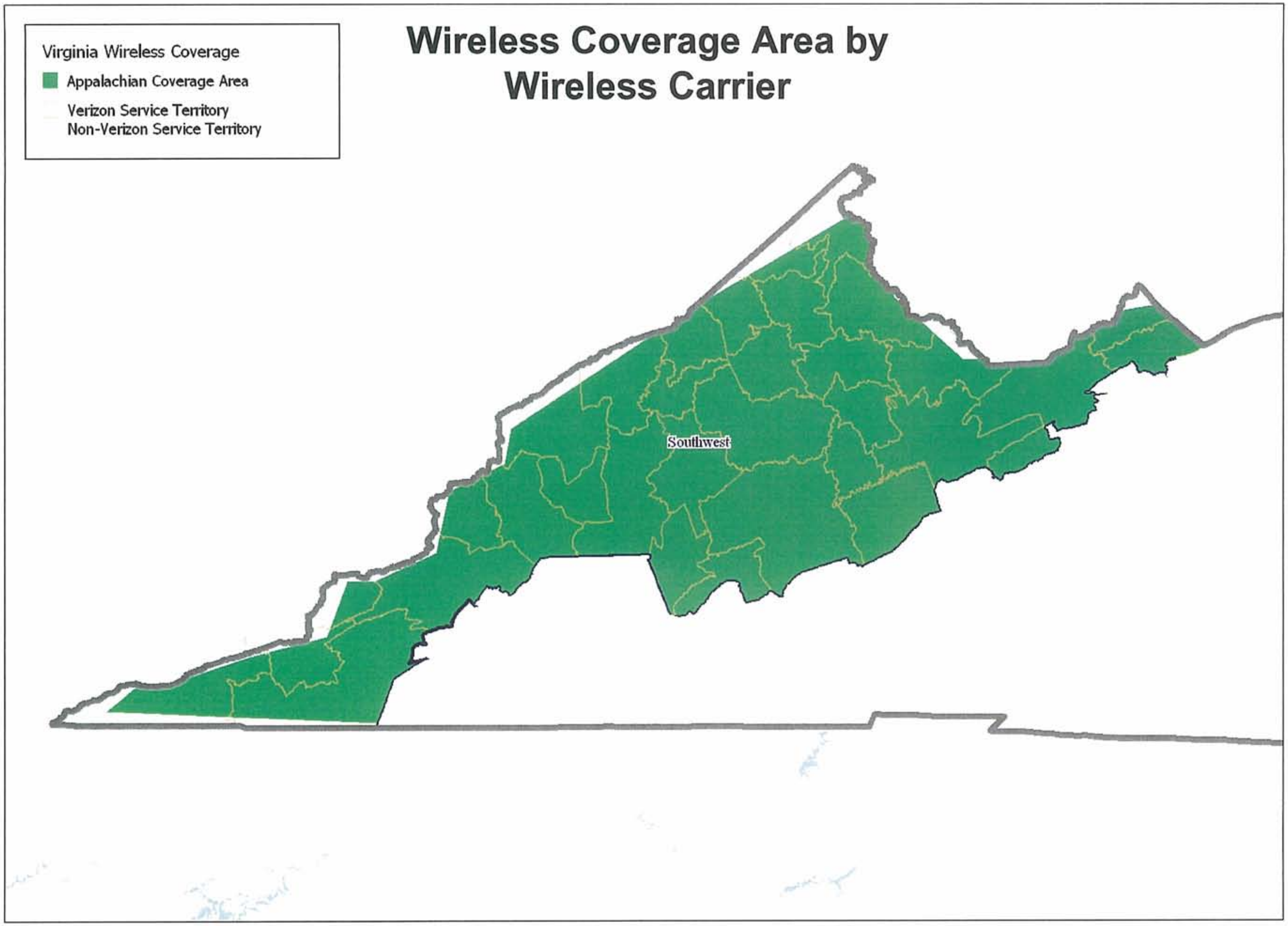


Exhibit SW-11, page 2 of 2

SW-12

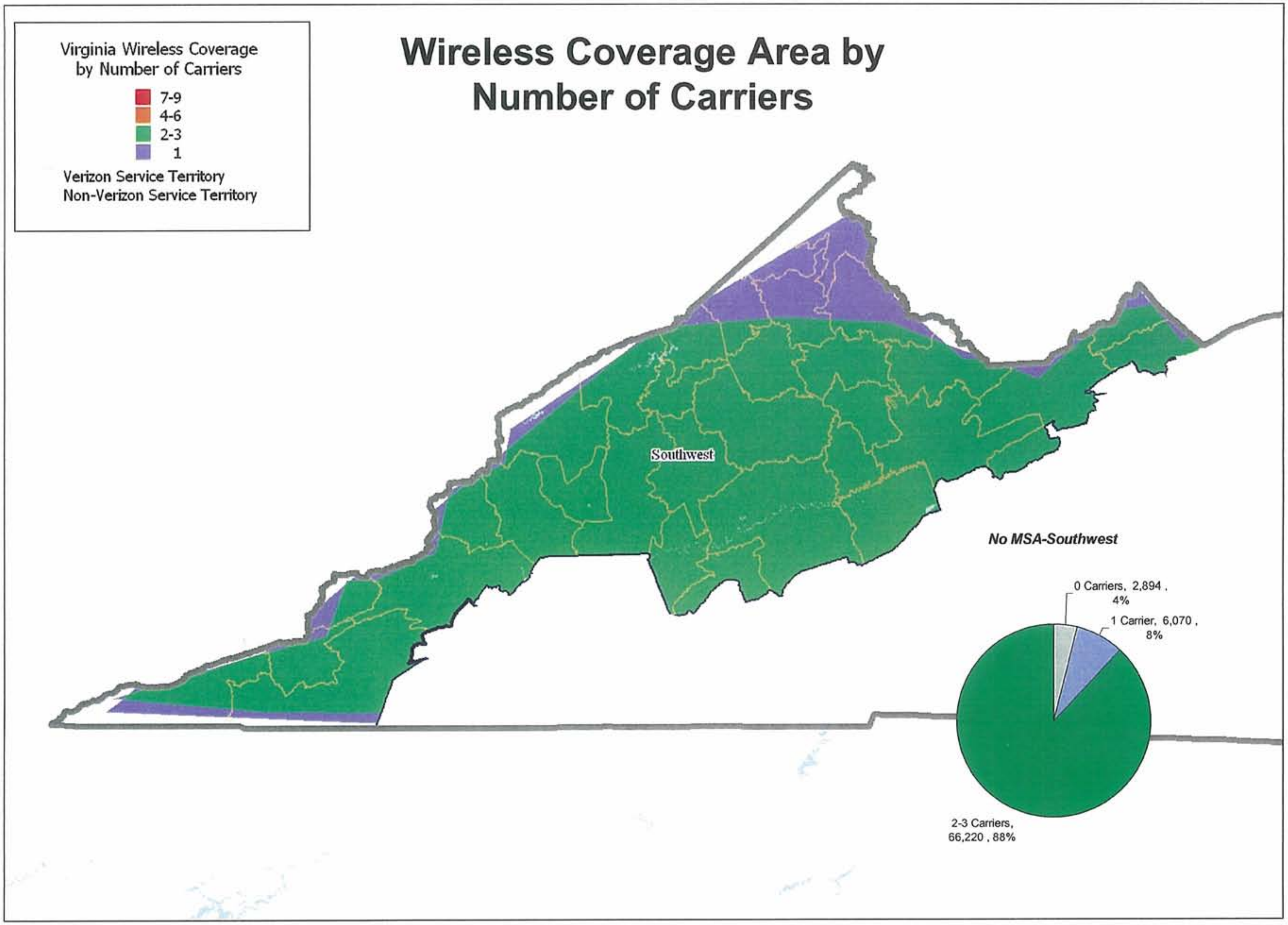


Exhibit SW-12

Note: HH numbers reflect only those households in Verizon's Service Territory

SW-13

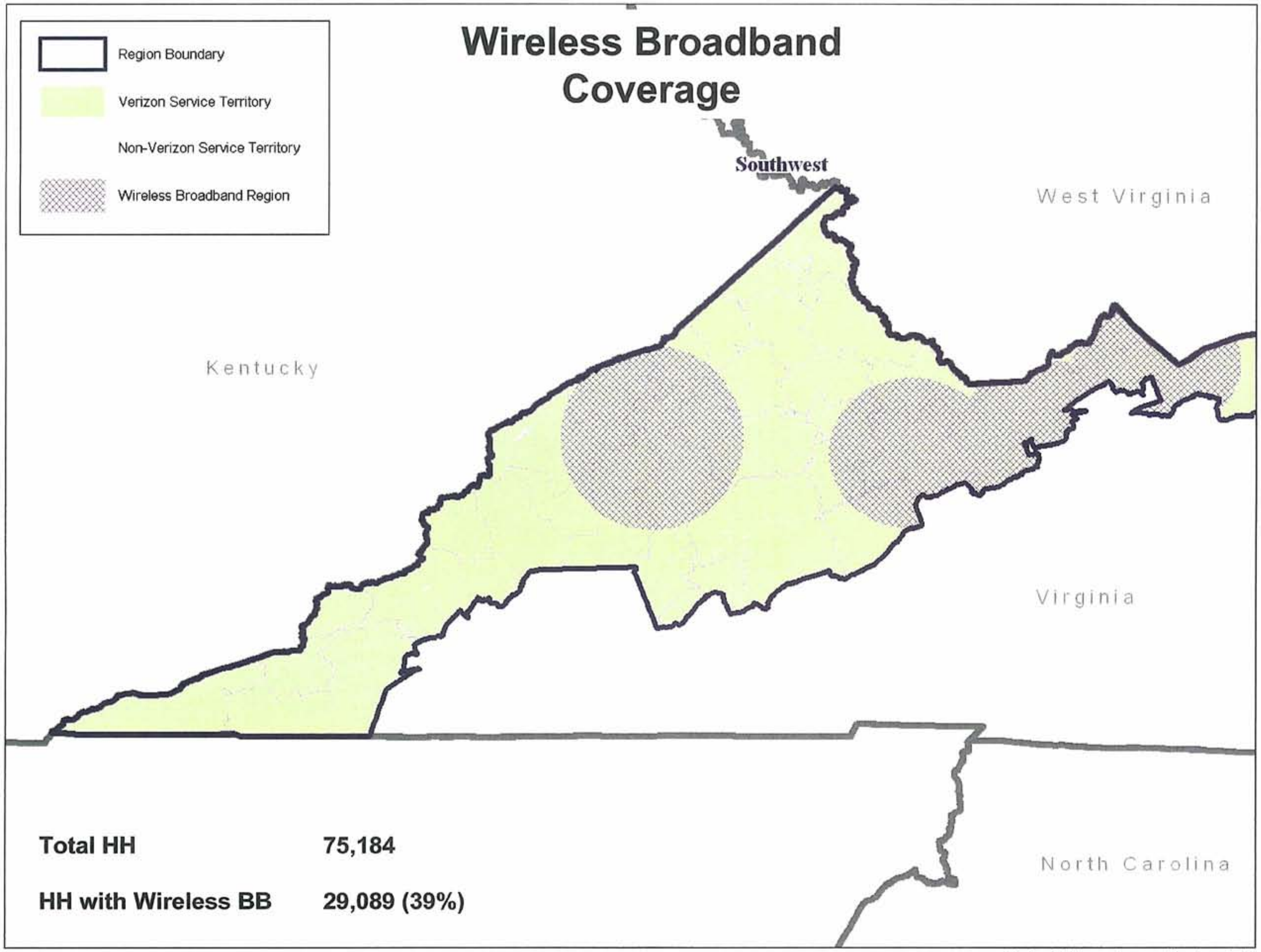


Exhibit SW-13

Note: HH numbers reflect only those households in Verizon's Service Territory

SW-14

CONFIDENTIAL
EXHIBIT SW-14

SW-15

CONFIDENTIAL

EXHIBIT SW-15

CONFIDENTIAL
EXHIBIT

SW-16

CONFIDENTIAL

EXHIBIT SW-16

SW-17

CONFIDENTIAL

EXHIBIT SW -17

SW-18

CONFIDENTIAL
EXHIBIT SW-18

SW-19

CONFIDENTIAL

EXHIBIT SW-19

CONFIDENTIAL

EXHIBIT